Training Underrepresented Students on Craniofacial Research at USC

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ABSTRACT

Background: Underrepresented students from local communities are provided research opportunities in STEM, social sciences, and humanities at the University of Southern California (USC). Purpose: Each year, several students from the USC Graduate Initiative for Diversity, Inclusion, and Access (DIA) JumpStart and USC’s Science, Technology, and Research (STAR) programs have the opportunity to conduct craniofacial research at the Center for Craniofacial Molecular Biology (CCMB) under the mentorship of the faculty. Methods: As part of the training, students learned hands-on research skills, such as harvesting tissue samples from animals and processing tissues for various biochemical assays. Using available datasets and tools on FaceBase, students performed morphometric analyses of craniofacial bones. They labeled anatomical landmarks and quantified the size and shape of the craniofacial bones. Results: Students learned to organize their findings into a presentation and presented their research posters at the research symposium. Conclusion: This research opportunity trains and provides underrepresented students in the scientific research pipeline for the STEM workforce.

RESULTS

Figure 1 Mouse anatomical navigation tool on Facebase. (https://www.facebase.org/image-nav/mouse/)

Figure 2 Students learning morphometric analysis using the Avizo software.

Figure 3 Students’ poster presentations at the research symposia. A&C- Posters from STAR students. D-Poster from Jumpstart students.

REFERENCES


FUTURE DIRECTIONS

- High school students who completed the STAR program have successfully applied to top-tier Universities.
- DIA JumpStart students who successfully complete the program will have their application fees waived if they apply to USC PhD programs.